

### ABSTRACT

This invention discloses a method and an apparatus for sintering a gel tube formed by a sol-gel change. The sintering apparatus comprises a reaction chamber for accommodating the gel tube, sealed under a vacuum condition; a vacuum pump for  
5 adjusting the degree of vacuum inside the reaction chamber according to a control signal; a vacuum gauge for measuring the degree of vacuum inside the reaction chamber; a movable part for supporting the gel tube and for rotating and vertically moving the gel tube according to the control signal; a temperature sensor for measuring the temperature inside the reaction chamber; a heater for adjusting the temperature inside the reaction chamber  
10 according to the control signal so as to sinter the gel tube; and, a controller for controlling the vacuum pump, the heater, and the movable part for sintering the gel tube under the vacuum condition.